2/2 023 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0120706

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. RATS WEANLINGS WERE KEPT FOR 3 WEEKS ON A RACHITOGENIC DIET. THE WEIGHT OF SUPRARENALS, THE 3-,LOZYSTEROID DEHYDROGENASE ACTIVITY THEREIN, PRODUCTION OF ALDOSTERONE AND CORTISCONTERONE BY THE ADRENALS IN VITRO SHOWED NO CHANGE BY COMPARISON WITH CONTROLS. THE WEIGHT OF THE THYMUS IN RACHITIC RATS WAS SOMEWHAT INCREASED. FACILITY: LABORATORIYA BIOKHIMII VITAMINOV VSES. N-I INSTITUTA VITAMINOLOGII MINISTERSTVA ZDRAVOOKHRANENIYA SSSR, MOSCOW.

UNCLASSIFIED

1/2 027 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--EFFECT OF ADRENAL GLANDS FUNCTIONAL STATE ON OXIDATIVE METABOLISM OF VITAMIN A AND ITS CONTENT IN ADRENAL GLANDS, LIVER AND BLOOD PLASMA

AUTHOR-(04)-GRIGORYEVA, L.V., NATANSON, A.O., SMIRNOV, M.I., SHIPITSYNA, L.P.

COUNTRY OF INFO--USSR

SOURCE--VOPROSY MEDITSINSKOY KHIMII, 1970, VOL 16, NR 3, PP 300-306

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ADRENAL GLAND, OXIDATION, METABOLISM, VITAMIN, LIVER, BLOOD PLASMA

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/0144 STEP NO--UR/0301/70/016/003/0300/0306

CIRC ACCESSION NO--AP0120844

UNCLASSIFIED

2/2 027 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0120844

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CONTENT OF VARIOUS VITAMIN A FORMS (ALCOHOL, PALMITATE; ALDEHYDE) IN ADRENAL GLANDS OF RATS AT THEIR ACTIVATION BY MEANS OF UNILATERAL ADRENALECTOMIA OR ACTH ADMINISTRATION AFTER INHIBITION OF THEIR FUNCTION BY PROLONGED HYDROCORTISOL INJECTION AND AFTER CANCELLATION OF HYDROCORTISOL WAS STUDIED. SIMULTANEOUSLY ALL THREE FROMS OF VITAMIN A CONTENT IN LIVER AND BLOOD PLASMA WAS DETERMINED. ACTIVATION OF ADRENAL GLANDS FUNCTION LEADS TO DECREASE IN THEIR VITAMIN A CONTENT. INHIBITION OF THEIR FUNCTION DID NOT CHANGE SIGNIFICANTLY VITAMIN A CONCENTRATION. THE DECREASE IN VITAMIN A CONTENT IN LIVER OF RATS INJECTED WITH HYDROCORTISOL WAS NORMALIZED AFTER THE CANCELLATION OF THE DRUG. THE CONSTANCY IN VITAMIN A ALDEHYDE CONTENT IN ADRENAL GLANDS, LIVER AND BLOOD SHOWS THAT ACTIVATION AS WELL AS INHIBITION OF ADRENAL CORTEX FUNCTION DOES NOT LEAD TO THE INCREASE IN OXIDATIVE VITAMIN A TRANSFORMATION IN ADRENAL GLANDS AND LIVER OF EXPERIMENTAL ANIMALS. FACILITY: ALL UNION RESEARCH VITAMINOLOGY INSTITUTE USSR MINISTRY OF HEALTH, MOSCOW.

UNCLASSIFIED

APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202130011-9"

USSR

UDC 678.029.5:669

NATANSON, the late E. M., and BRYK, M. T., Institute of Colloid Chemistry and the Chemistry of Water, Academy of Sciences Ukrainian SSR, Kiev

"Metallopolymers"

Moscow, Uspekhi Khimii, Vol 41, No 8, Aug 72, pp 1465-1493

Abstract: The article is a survey of experimental data on methods for the production of metallopolymers, the mechanism for their formation and their properties. The production methods considered are the electrolytic, electroflotation, thermal and mechanochemical methods. There is a detailed discussion of various mechanisms for the interaction on the interface between the surface of particles of metals obtained by such methods and the macromolecules of various polymers, resulting in the formation of metallopolymers. Metallopolymers based on organic high-molecular-weight compounds and on polyheteroorganosiloxanes and polyorganosiloxanes are considered. Attention is also directed to changes in the mechanism and kinetics of polymerization and polycondensation processes in the presence of highly dispersed metals. There is a discussion of the physicochemical properties of metallopolymers (electrical properties, permittivity, catalytic, antifriction, thermomechanical and mechanical properties, swelling, thermal and thermooxidized degradation), as well as possible fields for their use.

1/1

USSR

UDC 54-126+546.73+546.81

NATANSON, E. M. (deceased), KUZ'MOVICH, V. V., CHEGORYAN, V. M., IVKINA, N. A., and SHEVTSOVA, A. F., Institute of Colloidal Chemistry and Chemistry of Water, Acad. Sc. UkrSSR

"Formation of Metallopolymers on the Basis of Silicontungstic Acid"

Kiyev, Ukrainskii Khimicheskii Zhurnal, Vol 39, No 3, Mar 73, pp 249-253

Abstract: The reduction of silicontungstic acid with tin and cobalt has been investigated. Blue forms of silicontungstic acid have been prepared stable towards tin and cobalt. Conditions have been studied for the formation of tin and cobalt metallopolymers starting from the barium salts of silicontungstic acid blues. The heat conductivity and electroconductivity of the metallopolymers obtained have been evaluated. The data obtained indicated that the metallic phase is in highly dispersed state, stable to oxidation; the metallic particles are isolated from each other by a film of the barium salt of silicontungstic acid blues.

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USSR

UDC 541.183,2.678

NATANSON, E. M. [Deceased], UL'BERG, Z. R., Institute of Colloidal Chemistry and the Chemistry of Water, Academy of Sciences Ukrainian SSR

"Colloidal Metals and Metallopolymers"

Kiev, Kolloidnyye metally i metallopolimery, "Naukova dumka", 1971, 347 pp

Abstract: This book presents the results of studies in the field of the formation of colloidal particles and metals and also the theoretical foundations of modern methods of obtaining them in powder form in different media. General principles for the formation of metallopolymers and the fundamental methods of producing them are given. The results of studies of the different properties of metallopolymers are given and ways of applying them and fields of application are indicated. The book is intended for scientific and engineering workers in powder metallurgy, the chemical industry, polymer chemistry and technology, electrochemistry and other branches of technology, and also for aspirants and students in higher courses in chemical specialties.

USSR

NATANSON, E. M. [Deceased], UL'BERG, Z. R., Kolloidnyye metally i metallopolimery, "Naukova dumka", 1971, 347 pp

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NATANSON, E. M. [Deceased], UL'BERG, Z. R., Kolloidnyye metally i metallopolimery, "Naukova dumka", 1971, 347 pp

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NATANSON, E. M. [Deceased], UL'BERG, Z. R., Kolloidnyye metally i metallo-polimery, "Naukova dumka", 1971, 347 pp



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USSR

NATANSON, E. M. [Deceased], UL'BERG, Z. R., Kolloidnyye metally i metallopolimery, "Naukova dumka", 1971, 347 pp

USSR

NATANSON, E. M. [Deceased], UL'BERG, Z. R., Kolloidnyye metally i metallopolimery, "Naukova dumka", 1971, 347 pp



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USSR

NATANSON, E. M. [Deceased], UL'BERG, Z. R., Koiloidnyye metally i metallo-polimery, "Naukova dumka", 1971, 347 pp

USSR

NATANSON, E. M. [Deceased], UL'BERG, Z. R., Kolloidnyye metally i metallopolimery, "Naukova dumka", 1971, 347 pp



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USSR

NATANSON, E. M. [Deceased], UL'BERG, Z. R., Kolloidnyye metally i metallopolimery, "Naukova dumka", 1971, 347 pp



9/9

USSR

UDC 621.762.2(088.8)

SHVETS, T. M., VASILENKO, V. P., NATANSON, E. M.

"Method of Production of Metal Powders"

USSR Author's Certificate No. 308094, filed 3/04/69, published 23/08/71. (Translated from Referativnyy Zhurnal Metallurgiya, No 2, 1972, Abstract No. 2G374P).

Translation: A method is suggested for production of metal powders by electrolysis of aqueous solutions of salts using an oscillating cathode. In order to increase the degree of dispersion and homogeneity of the powders of the colloid metals and alloys, the process of electrolysis is performed in a 2-layer bath, consisting of an aqueous solution of the corresponding salts of the metals and an organic fluid, as ultrasonic oscillations are fed to the cathode.

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USSR

UDC 621.762.2.001

NATANSON, E. M., UL'BERG, Z. R.

"Colloidal Metals and Metal-polymers"

Kolloidnye Metally i Metallopolimery [English Version Above], Kiev, Nauk. Dumka Press, 1971, 348 pages (Translated from Referativnyy Zhurnal, Metallurgiya, No 5, 1972, Abstract No 5 G450 K from the Resume).

Translation: Results are presented from studies in the areas of formation of colloidal metal particles, as well as the theoretical principles of modern methods of their production in powder form in various media. The general principles of formation of metal polymers and basic methods of their production are given. Results are presented from studies of various properties of metal polymers, and methods in the areas of their application are indicated.

1/1

USSR

UDC 543.251:669.017.1

SHVETS, T. M., NEL'NICHENKO, Z. M., VASILENKO, V. P., IVANOVA, L. YU., and [redacted], Institute of Colloidal Chemistry and Water Chemistry, Academy of Sciences Ukrainian SSR

"Effect of Additives on the Electrodeposition of Iron-Cobalt-Nickel Ternary Alloys"

Kiev, Poroshkovaya metallurgiya, No 3, 1972, pp 12-17

Abstract: Cited are the experimental results of a study of the effects of various additives (both inert and surface-active compounds) on the electrodeposition of highly dispersed layers of Fe-Co-Ni alloys, their structure, and the size and shape of the particles formed in the double-layer bath. Measurements of the magnetic properties of the highly dispersed Fe-Co-Ni alloy powders produced in the presence of additives indicate the coercive force to be slightly lower in all cases; the residual intolerance increases due to the high dispersity and the marked anisotropy of the shape. The study shows the potential changes in the structure of the deposit as a function of one electrodeposition additive on another. (2 illustrations, 2 tables, 5 bibliographic references)

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UNCLASSIFIED PROCESSING DATE--30OCT70

1/2 017

TITLE--ON THE MECHANISM OF FORMATION OF METALLO POLYMERS BASED ON EPOXY THIOKOL COMPOSITION AND COLLOIDAL LEAD -U-

AUTHOR-(05)-ULBERG, Z.R., KOMPANIYETS, V.A., ILINA, L.T., YAVORSKAYA, N.V., NATANSON, E.M.

COUNTRY OF INFO--USSR

SOURCE--KOLLOIDNYY ZHURNAL, 1970, VOL 32, NO 2, PP 278-281

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--METAL CONTAINING POLYMER, EPOXY RESIN, LEAD, POLYSULFIDE RUBBER, FREE RADICAL, CHEMISORPTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1992/1551 STEP NO--UR/0069/70/032/002/0278/0281

CIRC ACCESSION NO--AP0112545
UNCLASSIFIED

2/2 017 UNCLASSIFIED PROCESSING DATE--020CT70

CIRC ACCESSION NO--AP0112545

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE INTERACTION OF AN EPOXY THIOKOL MIXTURE WITH COLLOIDAL LEAD DURING ITS THERMAL FORMATION INVOLVES THE APPEARANCE IN THE SYSTEM OF FREE RADICALS AT THE TEMPERATURE 240 PLUS OR MINUS 10DEGREES. THE INTERACTION BETWEEN THE EPOXY THIOKOL MIXTURE AND THE SURFACE OF COLLOIDAL LEAD IS OF A CHEMISORPTIVE NATURE. THE TEMPERATURE CONDITIONS OF PREPARATION OF METALLO POLYMERS BY THE THERMAL METHOD HAVE BEEN ESTABLISHED. THE DEGREE OF SWELLING OF METALLO POLYMERS DECREASES WITH RISING METAL CONCENTRATION.

UNCLASSIFIED

USSR

UDC 54-126+546.72+661.88

DUBININ, V. N., KUZ'MOVICH, V. V., SHEVTSOVA, A. F., LVKINA, N. A., and NATANSON, E. M., Institute of Physics and Institute of Colloid Chemistry and the Chemistry of Water, Academy of Sciences Ukr. SSR

"Application of the Moessbauer Effect for the Study of the Composition of Metal Polymers Derived from Inorganic Polymers"

Kiev, Ukrainskiy Khimicheskiy Zhurnal, Vol 36, No 12, Dec 70, pp 1,298-1,299

Abstract: The Moessbauer effect was applied for the study of Fe and Sn polymers derived from siliconolybdic acid. The synthesis of these polymers has been described elsewhere. The Moessbauer effect spectra of the Fe polymers exhibited a doublet indicating the presence of amorphous $Fe(OH)_3$. Presumably highly disperse crystalline beta-FeOOH or alpha-FeOOH was present in the polymers. A second doublet corresponded to interaction of colloidal metallic Fe with the basis of the polymer. The magnitude of this doublet indicated that the amount of Fe which had reacted with the polymer basis was 15 and 30%, respectively, for polymers prepared by the electrolytic method and those prepared chemically. The spectra of Sn polymers constituted a superposition

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DUBININ, V. N., et al, Ukrainskiy Khimicheskiy Zhurnal, Vol 36, No 12, Dec 70, pp 1,298-1,299

of spectra typical for $SnO_2$ and metallic Sn, and of a doublet with parameters characteristic for Sn dioxide and hydroxide. The relative content of metallic Sn was approximately 10%.

1/2 047 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--ELECTRON MICROSCOPE STUDY OF HIGHLY DISPERSED COBALT -U-

AUTHOR-(04)-SHVETS, T.M., VASILENKO, V.P., ZHELIBO, YE.P., NATANSON, E.M.

COUNTRY OF INFO--USSR

SOURCE--UKRAIN, KHIM, ZHUR., APR. 1970, 36, (4), 335-339

DATE PUBLISHED----APR70

SUBJECT AREAS--MATERIALS, CHEMISTRY

TOPIC TAGS--ELECTRON MICROSCOPY, COBALT ALLOY, METAL POWDER, POWDER METAL, METAL FIBER, ELECTRODEPOSITION, ELECTROLYTE, CHLORIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3008/0343 STEP NO--UR/0073/70/036/004/0335/0339

CIRC ACCESSION NO--AP0137447

UNCLASSIFIED

2/2 047 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0137447

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SHAPE AND SIZE OF HIGHLY DISPERSED CO PARTICLES OBTIANED BY ELECTRODEPOSITION UNDER DIFFERENT CONDITIONS WERE STUDIED IN THE TRANSMISSION ELECTRON MICROSCOPE. CHANGING THE ELECTROLYTE CONCENTRATION FROM 100 TO 400 G-L. COCL SUB2 .6H SUB2 O LED TO A SHARP INCREASE IN PARTICLE SIZE AND A GREATER DEGREE OF DENDRITE FORMATION; RAISING THE CATHODIC C.D. FROM 4 TO 40 A-DM PRIME2 GAVE PARTICLES IN THE FORM OF THE FINE FIBRES. CHANGING THE ELECTROLYTE ACIDITY FROM PH 5 TO PH 1 HAD LITTLE EFFECT ON THE SHAPE OF THE CO PARTICLES.

UNCLASSIFIED

USSR

UDC 621.538.669

SHVETS, T. M., IVANOVA, L. YU., MEL'NICHENKO, Z. M., NISHCHENKO, E. G., and NATANSON, E. M., (DECEASED ), Institute of Colloidall and Water Chemistry, AN UkrSSR

"Magnetic Properties of Highly Disperse Iron-Cobalt-Nickel Alloy Powders"

Kiev, Akademiya Nauk Ukr SSR, Poroshkovaya Metallurgiya, No 7, Jun 72, pp 71-75

Abstract: Experimental results of a study of the effect of various electrolysis parameters (electrolyte concentration and acidity, cathode current density, cathode material, and the presence of additives) and of the alloy composition on the magnetic properties of highly disperse ternary iron-cobalt-nickel alloys are presented. The analysis shows that the most significant effect on the magnetic properties is produced by electrolyte concentration. Thus, by increasing concentration from 50 to 500 gr/l (iron, cobalt, and nickel chlorides) the coercive force drops from 800 to 300 oe, and this is related to significant coarsening of alloy particles.

1/1

TLE--BREAKING IN OIL -U-

UTHOR-(05)-KOSTETSKIY, B.I., SAVCHENKO, N.Z., KRAVETS, I.A., VOZNYUK,
L.F., NATANSON, M.E.
OUNTRY OF INFO--USSR

OURCE--U.S.S.R. 264,579
EFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,
ATE PUBLISHED--03MAR70

UBJECT AREAS--MATERIALS

OPIC TAGS--CHEMICAL PATENT, LUBRICATING OIL, MINERAL OIL

ONTROL MARKING--NO RESTRICTIONS

OCUMENT CLASS--UNCLASSIFIED
ROXY REEL/FRAME--3002/0086 STEP NO--UR/0482/70/000/000/0000/0000

IRC ACCESSION NO--AA0127713
UNCLASSIFIED

2/2 013 UNCLASSIFIED PROCESSING DATE--30OCT70

IRC ACCESSION NO--AA0127713

BSTRACT/EXTRACT--(U) GP-0- ABSTRACT. OIL THAT REDUCES THE TIME REQUIRED FOR BREAKING IN ENGINES AND IMPROVES THE QUALITY OF THE SURFACES OF THE MOVING PARTS IN CONTACT IS BASED ON MINERAL OIL AND CONTAINS 0.5-1.5 WT. PERCENT O HYDROXYQUINOLINE AND 0.2 WT PERCENT OLEIC ACID.

FACILITY: UKRAINSKAYA ORDENA TRUDOVOGO KRASNOGO ZNAMENI SEL'SKOKHOZYAYSTVENNAYA AKADEMIYA.

UNCLASSIFIED

USSR

UDC 621.791.756:621.785

BRAUN, M. P., ABRAMOVA, E. P., VINOKUR, L. B., NAKHMAN, M. L., IVANOVA, R. K., KHIL'CHEVSKAYA, T. V., and MALAY, A. Ye., Institute of Casting Problems, Academy of Sciences UkrSSR

"Seam Zone Phase Composition of Complex Alloyed Steel"

Kiev, Avtomaticheskaya Svarka, No 10, Oct 70, pp 1-5

Abstract: A description is given of experiments performed to clarify the nature of the processes responsible for the embrittlement of the material near a welding seam. These experiments involved quantitative chemical analysis of the carbide deposit precipitated after welding, as well as other products of thermal treatment. Specimens 10 mm in diameter and 100 mm in length were dissolved in the course of an hour in an electrolyte made up of 50 g of glucose and 100 g of ammonium chloride in 800 ml of water. The current density for the electrolysis was 0.03 a/cm$^2$. The composition of the precipitate was determined by x-ray diffraction with direct photography in cobalt or chromium radiation, checked by the microdiffraction method, and subjected to chemical analysis. For the detection of titanium carbide, the precipitate was boiled in a 0.05% solution of hydrochloric acid for five hours. Other details are given. It is concluded that the titanium and molybdenum carbides are not responsible for the embrittlement of the steel.

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USSR

UDC 621.791.011:543.621:546.72

YEREMENKO, V. N., LESNIK, N. D., and NATANZON, YA. V., Institute of Problems of Material Science, Academy of Sciences UkrSSR, and Ryabov, V. R., Institute of Electric Welding imeni YE. O. Paton, Academy of Sciences

"Interaction of Aluminum With Iron Suitable for Welding Conditions"

Kiev, Avtomaticheskaya Svarka, No 4, Apr 71, pp 14-16

Abstract: A general-purpose model for welding of dissimilar metals, developed by the Institute of Metallurgy imeniA. A. Baykov, proposes two stages: formation of contact between the adjacent surfaces and formation of a strong metallic bond between the metals being joined. The authors undertook solving of the problem of welding steel with aluminum alloys considering the interaction of iron andmolten aluminum. In this study the first step was spreading of molten aluminum on the iron surface; the second step involved formation of a substrate of intermetallic phases at the iron-aluminum interface; in the third step there occurred dissolution of these phases in the melt of aluminum. Kinetics of molten aluminum wetting on the iron surface was studied and the ratio of growth rates and dissolution of boundary phases was determined. In all cases for the dissolution of iron in molten aluminum a substrate of intermetallides was observed composed for $\theta(FeAl_3)$- and $\eta(Fe_2Al_5)$-phases. It was concluded that it is impossible to weld iron with aluminum without the formation of intermetallic substrates.

1/1

USSR

UDC 620.18

KOVAL, A. D., NATAPOV, B. S., and OL'SHANETSKIY, V. E., Zaporozh'e

"The Interaction of Rare Earth Metals With the Edges of Grains of Nickel and Its Alloys"

Moscow, Fizika i Khimiya Obrabotki Materialov, No 4, Jul/Aug 72, pp 102-107

Abstract: The effect of the rare earth metals (REM) -- neodymium (Nd), praseodymium (Pr), cerium (Ce), and lanthanum (La) -- on the structural and energy properties of grain boundaries of purified nickel, nichrome (11% Cr), and an alloy of the ZhS6K type containing 15% chromium was examined. The REM impurities increased the rate of migration of grain boundaries in the following order: Nd > Pr > Ce > La. In general, the grain boundary energy of pure nickel, the length of time to fracturing under a load (T = 975°C, $\sigma$ = 200 min/m$^2$), and the impact strength are greatest for 0.06, intermediate for 0.12, and lowest for 0.02 wt % impurity.

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USSR

UDC 69-419.4:669.24'26'28'27

BANAS, F. P., GAYDUK, V. V., NATAPOV, B. S., ALEKSANDROV, B. V., and YEFIMENKO, L. N., Zaporozh'ye Machine Building Institute

"Nichrome-Molybdenum, Tungsten Composites"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 8, 1971, pp 6-11

Abstract: The article describes a process for obtaining composite sheet material based on nickel-chromium alloys reinforced with refractory metals and their alloys in the form of unidirectional wires and different types of gauze. Packs of alternating sheets of the matrix and reinforcing fibers with superimposed wire contour frame undergo isothermal hot pressing in a vacuum chamber. During pressing the wire contour frame seals the pack, which permits subsequent rolling of the pressed material in air at 1100-1150° C. Scale-resistant sheet alloys KhN78T (EI435) (20% Cr, 78% Ni, 1% Fe, 1% the balance) and VZh98 (29% Cr, 14%

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USSR

BANAS, F. P., et al., Metallovedeniye i Termicheskaya Obrabotka Metallov, No 8, 1971, pp 6-11

W, 56% Ni, 1% the balance) are used as the matrix material, 0.2-0.5-mm-diameter molybdenum and tungsten wire gauze as the reinforcement. The described method permits the fabrication of compact materials.

A white unetched zone is formed at the "fiber-matrix" interface. This zone apparently is a solid solution of chromium based on the intermetallides $WNi_4$ and $MoNi_n$. The hardness of the zone is greater than that of the fiber and matrix. The distribution of tungsten, molybdenum, nickel, and chromium along the width of the transition zone shows that the total interdiffusion depth can be characterized by the width of the white unetched zone. The rate of interdiffusion between fibers and matrix is stabilized in 250 hours for tungsten fibers and 500 hours for molybdenum

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USSR

BANAS, F. P., et al., Metallovedeniye i Termicheskaya Obrabotka Metallov, No 8, 1971, pp 6-11

fibers. The width of the transition zone is approximately ten times greater for molybdenum fibers than for tungsten fibers. The solubility of molybdenum in both matrices is considerably higher than that of tungsten. The degree of dissolution of tungsten fibers is considerably lower in the VZh98 matrix containing tungsten than in the tungsten-free KhN78T matrix. The solubility of molybdenum fibers is approximately the same in both matrices. The regularities of the interdiffusion between fibers and matrix in nickel-chromium materials reinforced with molybdenum and tungsten fibers make it possible to select the fiber diameter and the thickness of the outer protective layer of the matrix in relation to the required temperature and service life.

3/3

AA0040509

UR 0482

Soviet Inventions Illustrated, Section I Chemical, Derwent, 3-70

236411 STAMPING of lightgauge austenitic plate is made on lead and zinc stamp by preheating the plate to the temperature of the austenitic formation and then cooling it down to 25-30°C anove the martensitic conversion but below the melting point of the stamp (327°C). Preheating is done in a furnace and for cooling the plate is transferred to an electric oven or to an alkaline bath. 31.7.67. as 1177719/25-27. N.P.PETROVICHEV et al. (11.6.69.) Bul.7/ 3.2.69. Class 7c, 18c. Int.Cl. B21d, C21d.

AUTHORS: Petrovichev, N. P.; Fomin, A. P.; Stroganov, G. B.; Natanov, S. Ya.; Entin, L. Kh.; Orzhekhovskiy, Yu. F.

19750009

USSR

UDC 669.71'782'3

KOVAL', A. D., NATAPOV, YE. B., LEZHENKO, G. G., SEYN. V. I., SHEGAY, A. A., and SHMAKOV, A. M., Zaporozh'ye Machine Building Institute, Department of Physical Metallurgy

"Molybdenum and Tungsten Fibers as a Strengthener of a Heat-Resistant Composite"

Ordzhonikidze, Izvestiya Vysshikh Uchebnykh Zavedeniy--Chernaya Metallurgiya, No 4, 1973, pp 153-155

Abstract: This work was conducted to study certain mechanical properties of wire, made at the Uzbek Refractory and Heat-Resistant Materials Combine (URHRMC), and the American alloy TZM, and to explain the possibilities of realizing the strength of molybdenum wire in a composite. Materials for this study were molybdenum and tungsten wires grades MCh and MK, made at URHRMC, experimental wire ChZM, and tungsten wire grade VA. A matrix of alloy EI435 was used with filler wire 0.5 mm in diameter. Volume content of wire in the alloy was 24%. Results of determining tensile strength showed that wire MCh had the lowest mechanical properties at 800-1200°C. Experimental alloy ChZM surpasses the short-time strength of molybdenum alloys TZM, MCh, MK and ChZM (not heat treated) after heat treatment. Tensile strength of EI435+30% MCh at 1100°C in the initial state and after annealing for 500 hours was 11-14 kg/mm$^2$. The

USSR

KOVAL', A. D., et al., Izvestiya Vysshikh Uchebnykh Zabedeniy--Chernaya Metallurgiya, No 4, 1973, pp 153-155

following table shows the tensile strengths and short-time strengths of EI435 with different combinations of wire filler:

| | TS(1100°C) | STS(1200°C) |
|---|---|---|
| EI435+30% MCh | 13.6 kg/mm2 | --- |
| EI435+24% VA | 19 | 16.4 kg/mm$^2$ |
| EI435+24% ChZM | 22.2 | 17 |

Thus, the composite EI435+24% ChZM has the best properties above 1100°C and shows the best prospects as a filler wire reinforcing material. 2 figures, 1 table, 3 bibliographic references.

2/2

USSR

UDC 539.562:669.27:62-426

BANAS, F. P., NATAPOVA, A. B., SHEGAY, A. A., and SUKHANOV, YU. V., Zaporozh'ye Machine-Building Institute Imeni V. L. Chubarya

"Tungsten Wire as a Reinforcement for Heat-Resistant Composite Materials"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 7, 1973, pp 45-46

Abstract: The strengths of VA, VT7, and VT15 alloys and of composite materials based on them were experimentally investigated. The results are presented in diagrams showing the temperature dependence of short-duration strength of tungsten wires and reinforced plates and the recrystallization of VT7 alloy wires. The wire of VA brand recrystallizes in the composite after 120-150 hr aging at 1100°C. In wires of VT7 alloy, a partial recrystallization takes place after 500-hr aging at 100°C. The 20-50 hr aging at 1200°C of the composite with tungsten reinforcement VA and VT7 results in complete collecting recrystallization in the wires. In wires of VA, VT7, and VT15 alloys, the process of collecting recrystallization begins at 1300°C after 6-7 hr aging. Two figures, two tables.

1/1

USSR

UDC 627.82:624.042.7.69(083.75)

VOLOKHOVA, M. N., NATARIUS, YA. I., Engineers

"On Designing Dams of Local Materials and Massive Concrete for Seismic Disturbances"

Moscow, Gidrotekhnicheskoye stroitel'stvo, No. 1, Jan 72, pp 38-42

Abstract: The specifications as given in design SNiP II-A.12-69 which take into account dynamic characteristics of structures and dynamic or spectral theory are discussed. It is shown that these specifications are up to date and correct but that to achieve them requires more complete information on the reaction of a structure to an earthquake. The data presented in the article show that there presently exist the necessary premises for achieving the requirements of the SNiP design in practice, the technique for determining seismic inertial accelerations, and the corresponding computer techniques. It is recommended that studies to determine the dynamic values of elastic moduli of materials and permissible stresses be carried out in order to better realize the possibilities of the dynamic method of calculation on the basis of analog accelercgrams. Detailed studies of the dynamic characteristics of the

VOLOKHOVA, M. N., NATARIUS, YA. I., Gidrotekhnicheskoye stroitel'stvo, No. 1, Jan 72, pp 38-42

material of the body of the dams and the structures themselves are necessary. Particular attention should be paid to the relationship between the logarithmic decrement in the oscillations and the stressed state of the structure and to establishing maximum values for the decrement and its changes on the basis of oscillation tones. Further development is recommended in techniques for calculations based on analog accelerograms considering the elastic-plastic working of the material, crack formation and the actual block structure of the structure. The existing technique for calculating hydroengineering structures for seismic disturbances is recommended for achieving the appropriate requirements of SNiP even in the statistical interpretation of the computational results.

2/2

L/2 010 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--DIURETIC EFFECT OF POLYETHYLENEGLYCOLS -U-

AUTHOR-(02)-NATOCHIN, YU.V., SHAKHNATOVA, YE.I.

COUNTRY OF INFO--USSR

SOURCE--BYULLETEN' EKSPERIMENTAL'NOY BIOLOGII I MEDITSINY, 1970, VOL 69, NR 4, PP 79-81

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--POLYTHEYLENE, GLYCOL, DIURETIC, RAT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/0362 STEP NO--UR/0219/70/069/004/0079/0081

CIRC ACCESSION NO--AP0132591

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--20NOV70

2/2 010

CIRC ACCESSION NO--AP0132591

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. INTRAVENOUS INJECTION OF POLYETHYLENEGLYCOL (P.E.G. 400) TO RATS CAUSED AN INCREASE IN DIURESIS FROM 0.22 TO 1.78 ML PER HOUR AND OF NATRIURESIS FROM 8.9 TO 21.8 MU EQ PER HOUR. IN MOST OF THE EXPERIMENTS A CORRELATION WAS ESTABLISHED BETWEEN THE ADMINISTERED DOSE OF P.E.G. 400 (FROM 0.01 TO 0.8 ML) AND THE INCREASE IN DIURESIS. IN PART OF THE EXPERIMENTS P.E.G. 400 REDUCED PROXIMAL REABSORPTION. IN THIS CASE DIURESIS INCREASED UP TO 4.3 ML PER HOUR AND NATRIURESIS UP TO 347 MU EQ PER HOUR. THE EFFECT OF EQUIMOLAR DOSES OF POLYETHYLENEGLYCOL 200 AND 300 AND OF 20PERCENT MANNITE SOLUTION ON THE KIDNEY IS IN MANY RESPECTS SIMILAR TO THAT OF P.E.G. 400. AS POLYETHYLENEGLYCOLS ARE LIQUID, THEY CAN BE INJECTED WITHOUT PRELIMINARY DISSOLVING IN WATER AND USED AS OSMOTIC DIURETICS.

FACILITY: SECHENOV INSTITUTE OF EVOLUTIONAL PHYSIOLOGY AND BIOCHEMISTRY, USSR ACADEMY OF SCIENCES, LENINGRAD.

UNCLASSIFIED

1/2 024 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--CATION EXCRETION BY THE DOG'S KIDNEY AFTER CACL SUB2 AND MGCL SUB2 ADMINISTRATION DURING DIURESIS OR ANTIDIURESIS -U-

AUTHOR-(02)-GUSEV, G.P., NATOCHIN, YU.V.

COUNTRY OF INFO--USSR

SOURCE--FIZIOLOGICHESKIY ZHURNAL SSSR IMENI I. M. SECHENOVA, 1970, VOL 56, NR 5, PP 782-790

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--CATION, DOG, KIDNEY, DIURESIS, CALCIUM CHLORIDE, MAGNESIUM CHLORIDE, SODIUM, POTASSIUM, CALCIUM, MAGNESIUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/0374 STEP NO--UR/0239/70/056/005/0782/0790

CIRC ACCESSION NO--AP0132603

UNCLASSIFIED

2/2 024 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0132603

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. NA, CA AND MG REABSORBTION WAS SHOWN TO INCREASE AT THE MAXIMUM WATER DIURESIS WHILE THEIR EXCRETION DECREASED, K PRIME POSITIVE EXCRETION WAS NOT CHANGED. AFTER CACL SUB2 ADMINISTRATION, CA PRIME POSITIVE POSITIVE AND MG PRIME POSITIVE POSITIVE EXCRETION EQUALLY INCREASED WHILE NA PRIME POSITIVE AND K PRIME POSITIVE EXCRETION PRESERVED THE SAME LEVEL. MGCL SUB2 ADMINISTRATION SHARPLY INCREASED MG PRIME POSITIVE POSITIVE EXCRETION, SLIGHTLY INCREASED THAT OF CA PRIME POSITIVE POSITIVE AND DECREASED NA PRIME POSITIVE AND K PRIME POSITIVE EXCRETION. AGAINST THE ANTIDIURETIC BACKGROUND, INTRAVENOUS MGCL SUB2 AND CACL SUB2 ADMINISTRATION WAS FOLLOWED BY INCREASED IN THE DIURESIS AND EXCRETION OF ALL FOUR CATIONS.

FACILITY: I. M. SECHENOV'S INSTITUTE OF EVOLUTIONARY PHYSIOLOGY AND BIOCHEMISTRY ACAD. SCI. USSR, LENINGRAD.

UNCLASSIFIED

USSR

UDC 678.06-419.8:677.521.01:53

ASLANOVA, M. S., NATRUSOV, V. I., ROGINSKIY, S. L., and KHAZANOV, V. Ye.

"Study of the Effect of Some Factors on the Strength of Fiberglass During Compression by the Method of Mathematical Planning of the Experiment"

Moscow, Plasticheskiye Massy, No 2, 1973, pp 60-63

Abstract: The effect of some physico-mechanical properties of fiberglass and the binder on the strength during compression of fiberglass was studied by means of the mathematical planning of an experiment. Regression equations are reported for the maximum strength of the fiberglass during compression as functions of the fiber diameter, modulus of resilience of the binder and the fiber and adhesive strength of the binder in relationship to the glass fiber. On the basis of the analysis carried out it was possible to optimize the values of basic variables and to determine their qualitative and quantitative effects on the strength of fiberglass. It was established that it is possible to increase the strength of fiberglass during compression by using enlarged fibers with a diameter of 18 mc.

USSR

UDC: 576.851.48.007.3:576.8.073.4

NATSIASHVILI, E.YA. and ZHGENTI, E.N., Municipal Disinfection Station and Republic Sanitary-Epidemiological Station, Tbilisi

"Direct and Indirect Fluorescent Antibody Methods for Identifying Enteropathogenic E. coli in Environmental Samples"

Moscow, Zhurnal Mikrobiologii, Epidemiologii, i Immunobiologii, No 2, 1970, pp 136-137

Translation: In addition to the standard method of bacteriological identification, we verified the sensitivity, specificity, and diagnostic value of the direct and indirect fluorescent antibody methods for identification of enteropathogenic E. coli in smears from everyday objects. The first series of experiments involved standard strains - O111:B4, O26:B6, O55:B5, O86:B7, O125:B15, O126:B16, O127:B8, 145, O126:B12, O44:B7, O25:B11, 408. E. coli (No 7) S. typhi (No 179) and S. paratyphi A (No 1252), Sh. flexneri (No 1013) and Sh. sonnei (No 1188), and Proteus vulgaris (No 37) cultures were used as heterologous strains. The second series of experiments was conducted under practical conditions, with disinfection of the foci of patients suffering from toxic dyspepsia, enterocolitis, and acute intestinal disturbances. As diagnostic bacterial preparations we used (1) dry conjugates produced by the Institute of Epidemiology and Microbiology imeni Gamaleya, Academy of Medical Sciences USSR, for the direct method (complex and type coli serum against



APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202130011-9"

USSR

NATSIASHVILI, E.YA., et al, Zhurnal Mikrobiologii, Epidemiologii, i Immunobiologii, No 2, 1970, pp 136-137

rabbit gamma-globulins) and (ii) rhodamine-labeled dry bovine albumin to detect (by contrast) nonspecific luminescence inthe preparations. One serum served as a control for another. Moreover, with the direct method, we used labeled normal rabbit globulins; with the indirect method, antibrucellosis, antilisteriosis, antitoxoplasmosis, and normal rabbit sera. Enteropathogenic E. coli combined with homologous, luminescent serum or homologous nonluminescent and luminescent intermediate serum to produce specifically fluorescing complexes. Against the dark, nonfluorescent background of the preparations, the emerald-green fluorescence of the stained complexes could be seen along with the nonspecific brick-red fluorescence of the heterologous microorganisms and other impurities. There was no fluorescence in preparations from material known to be not infected. A distinct picture was observed with a high dilution of luminescent serum, up to the final titer (1:64-1:128). Introduction into the experiment of rhodamine-labeled bovine albumin had no effect on the color, nature, or degree of specific luminescence. The maximum sensitivity of the direct and indirect methods was 10-20 microbial cells in 1 ml of suspension (provided that the material under study was briefly cultured ahead of time). Agglutination of the tested cultures at high serum titers - 1:3200-1:1600-1:800 - was accompanied by a brilliant emerald-green fluorescence with

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NATSIASHVILI, E.YA., et al, Zhurnal Mikrobiologii, Epidemiologii, i Immunobiologii, No 2, 1970, pp 136-137

distinct morphological peculiarities of the complexes (++++ or +++), agglutination at a titer of 1:400 by weak green fluorescence of the complexes (++), and agglutination in titers of 1:200-1:100 by barely perceptible dirty green fluorescence of the complexes and indistinct morphology (+). In some cases weak fluorescence of cells (+ or ++) as the react with heterologous or even normal rabbit serum was observed. Weak fluorescence of indeterminate color was also observed with strains lacking clear-cut serological characteristics. Therefore, the reaction was considered positive when there were specifically fluorescing complexes with intense luminescence (++++ or +++) in each visual field. According to this criterion, in experiments with samples taken from everyday objects, the results of the three methods used coincided in 88.5% of the cases, while positive results coincided in 10.5±4%. The frequency of positive results with the direct method was 20.5±5%; which the indirect method, 21.0±5%; with the standard method, 12.5±4%. The direct and indirect methods revealed respectively, 2 and 12 serological types of enteropathogenic E. coli. The differences in the indices of the diagnostic errors observed with both methods were insignificant. The cross reactions that sometimes occured were weak, and did not interfere with the diagnostic studies. Thus, the direct and indirect fluorescent antibody methods can be used to

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NATSIASHVILI, E.YA., et al, Zhurnal Mikrobiologii, Epidemiologii, i Immunobiologii, No 2, 1970, pp 136-137

identify enteropathogenic E. coli in smears from everyday objects. The indirect method is more promising because of the presence of numerous serological types of E. colo.

1/2 019 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--NEW REACTION FOR THE PREPARATION OF PEROXIDES OF POLYNITROCARBOXYLIC ACIDS -U-

AUTHOR-(03)-EREMENKO, L.T., NATSIBULLIN, F.YA., TROFIMOVA, G.P.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM, 1970, (3), 630-3

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ORGANIC PEROXIDE, ORGANIC NITRO COMPOUND, CARBOXYLIC ACID, FLUORINATED ORGANIC COMPOUND, BROMINATED ORGANIC COMPOUND, CHEMICAL SYNTHESIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/0735 STEP NO--UR/0062/70/000/003/0630/0633

CIRC ACCESSION NO--AP0124405

UNCLASSIFIED

2/2 019 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0124405

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TO 0.1 MOLE POLYNITROCARBOXYLIC ACID IN H SUB2 O WAS ADDED AT 18-20DEGREES 0.055 MOLE 10PERCENT K SUB2 CO SUB3 OR KOH AND AFTER 30 MIN THE HOMOGENEOUS SOLN. OF THE K SALT WAS DILD. AND TREATED AT 1-3DEGREES WITH F DILD. WITH N IN 1:30 RATIO. THE DECOLORIZED SOLN. DEPOSITED 69-80PERCENT THE FOLLOWING (RCH SUB2 CH SUB2 CO SUB2) SUB2 (R SHOWN): MEC(NO SUB2) SUB2, M. 88.5DEGREES; (O SUB2 N) SUB3 C, M. 114DEGREES; CF(NO SUB2) SUB2, M. 89.5DEGREES; CCL(NO SUB2) SUB2, M. 94DEGREES; AND CBR(NO SUB2) SUB2, M. 69DEGREES. RCO SUB2 F WAS THE LIKELY INTERMEDIATE IN THE REACTION. FACILITY: INST. KHIM. FIZ., MOSCOW, USSR.

UNCLASSIFIED

1/2 018 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--SYNTHESIS OF BIS,2,FLUORO,2,2DINITROETHYL,AMINE AND TRIS,2,FLUORO,2,2,DINITROETHYL AMINE -U-

AUTHOR-(04)-GAFUROV, F.G., SVIRIDOV, S.I., NATSIBULLIN, F.YA., YEREMENKO, L.T.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (2), 383-7

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, PROPULSION AND FUELS

TOPIC TAGS--CHEMICAL SYNTHESIS, FLUORINATED ORGANIC COMPOUND, AMINE, FLUORONITRO COMPOUND, AMMONIUM SALT, CHEMICAL DECOMPOSITION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/0822 STEP NO--UR/0062/70/000/002/0383/0387

CIRC ACCESSION NO--AP0119726

UNCLASSIFIED

2/2 018 UNCLASSIFIED PROCESSING DATE--230CT7(

CIRC ACCESSION NO--AP0119726

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ADDING 39.8 G [(O SUB2 N) SUB2 CH SUB2 CH SUB2) NH AS THE DI,K SALT TO 200 G HNO SUB3 (D. 1.5) AND 50 G H SUB2 SO SUB4 (D. 1.84) AT NEGATIVE5 TO NEGATIVE10DEGREES, FOLLOWED AT 0-5DEGREES BY 850 G H SUB2 SO SUB4, AND KEEPING THE MIXT. 1 HR GAVE A PPT., WHICH AFTER BEING WASHED WITH H SUB2 SO SUB4 OF GRADUALLY DECREASING CONCN. (FINALLY 5PERCENT) YIELDED O SUB2 NN(CH SUB2 CH(NO SUB2) SUB2) SUB2, DECOMPD. 100-1DEGREES, WHICH IN MEOH WITH ALC. KOH 0.5 HR GAVE THE DI,K SALT, DECOMPD. 128DEGREES; DI,NA SALT, PREPD. SIMILARLY, DECOMPD. 121DEGREES; DI,NH SUB4 SALT DECOMPD. 99DEGREES. THE DI,NA DALT IN H SUB2 O TREATED AT 0-5DEGREES WITH F DILD. WITH 20 PARTS N GAVE 45PERCENT O SUB2 NN(CH SUB2 CF(NO SUB2) SUB2) SUB2 (I), M. 86DEGREES. I FORMED FROM THE DI,NH SUB4 SALT IN 40PERCENT YIELD AND FROM THE DI,K SALT IN 44PERCENT YIELD. TO 15.4 G CH(NO SUB2) SUB2 CH SUB2 OH IN H SUB2 O WAS ADDED, AT 50DEGREES OVER 4 HR, 34 ML 5PERCENT NH SUB4 OH AT PH 7.5-8 TO YIELD NH(CH SUB2 CF(NO SUB2) SUB2) SUB2, M. 42-3DEGREES, WHICH IN CONCD. H SUB2 SO SUB4 WITH HNO SUB3 (D. 1.5) AT ROOM TEMP. 2 HR GAVE 70PERCENT I. AQ. SOLN. OF [(O SUB2 N) SUB2 CKCH SUB2) SUB2 NCH SUB2 CH(NO SUB2) SUB2 TREATED WITH F,N GAVE 75PERCENT (CF(NO SUB2) SUB2 CH SUB2) SUB3 N, M. 78DEGREES. FACILITY: INST. KHIM. FIZ., MOSCOW, USSR.

UNCLASSIFIED

UDC: None

USSR

NATSIK, V. D. and BURKANOV, A. N.

"Radiation of Rayleigh Waves by Edge Dislocations Salient on Crystal Surfaces"

Leningrad, Fizika Tverdogo Tela, vol 14, No 5, 1972, pp 1289-1296

Abstract: The present paper is the sequel to a letter written by the first of the authors named above to the editor of the Journal of Experimental and Theoretical Physics (Pis'ma ZhETF, 8, 324, 1968) in which he predicted the existence of sonic radiation at the junction of dislocations appearing at a salient in the surface of the crystal emitting the radiation. This radiation also consisted of Rayleigh waves propagated along the crystal surface, and it is these waves with which the present paper is concerned. The authors discuss the Fourier components of the radiation fields, the spectral composition of the Rayleigh radiation, and the space-time form of the radiation. They express their gratitude to V. S. Boyko for his comments and are associated with the Physico-Technical Institute for Low Temperatures, Ukrainian Academy of Sciences, at Kharkov.
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USSR UDC 616.981.714-036.2:595.42-167 (576.6)

SHUBIN, F. N., NATSKIY, K. V., and SOMOV, G. P., Vladivostok Institute of Epidemiology and Microbiology

"Vectors of Tsutsugamushi Fever in the Far East"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunologii, No 9, Sep 70, pp 112-115

Abstract: Trombiculd mites collected from rodents in natural foci of tsutsugamushi fever on Shikotan Island and in the Khasanskiy Rayon (Primorskiy Kray) were studied to determine their feeding habits on man and calves. A natural carrier state of Rickettsia tsutsugamushi was identified in D. pomeranzevi on Shikotan Island, and the ability to transmit the rickettsia to man was demonstrated. The natural rickettsia carrier state in N. mitamurai and N. japonica, their capacity to feed on man, and the coincidence between the population of these species and the incidence of tsutsugamushi fever led to the conclusion that these species are vectors of this infection in the Southern Primorskiy Kray. Larvae of the latter two species of mites and of L. pavlovskiy feed on cattle.

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USSR

UDC: 911.3.616.981.714(571.6)

SOMOV, G. P., SHUBIN, F. N., SHAPIRO, M. I., COPACHENKO, I. M., NATSKIY, K. V.

"Further Study of the Zone of Tsutsugamushi Fever in the Far East"

V sb. Materialy XV Vses. S'ezda Epidemiologov, Mikrobiologov i infektsionistov, Tezisy dokl. Ch. I. (Proceeding of the 15th All Union Conference of Epidemiologists, Microbiologists and Specialists in Infectious Diseases, Report Theses, Part I--collection of works) Moscow, 1970, pp 110-111 (from RZh-Meditsinskaya geografiya, No 1, Jan 71, Abstract No 1.36.110, by V. Maslovskaya)

Translation: Patients and infected material yielded a total of 22 rickettsial strains. It was established that the strains belonged to the tsutsu-gamushi rickettsial group and differed from type strains only in their virulence. Ten of the 13 strains from Lake Shikotan, and 2 of the 3 from Sakhalin, were highly pathogenic. All 8 strains isolated from rodents and ticks in the northwest rayons of Primorskiy Kray were of low pathogenicity. On analysis of this data and previous research, the geographic plan shows that, from south to north, and from the oceanic islands to the continent, there is a decrease in the incidence of rickettsial strains from rodents and ticks, and a weakening of pathogenicity.

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USSR

SOMOV, G. P., et al., V sb. Materialy XV Vses. S'ezda Epidemiologov, Mikrobiologov i infektsionistov. Tezisy dokl. Ch. I. (Proceeding of the 15th All Union Conference of Epidemiologists, Microbiologists and Specialists in Infectious Diseases, Report These, Part I--collection of works) Moscow, 1970, pp 110-111 (from RZh-Meditsinskaya geografiya, No 1, Jan 71, Abstract No 1.36.110, by V. Maslovskaya)

The continental zone covers the whole southwestern part of the Primorskiy Kray, right up to Khabarovskiy Kray (Bikinskiy rayon). In the northwestern region of the Pacific Ocean, the tsutsugamushi zone includes south Sakhalin, the south Kuril=e Islands, and apparently the very southeastern part of the Kamchatka peninsula. The natural foci in the Soviet Far East are part of the general zone of this infection, including parts of Oceania, Australia, and South and Southeast Asia, all adjacent to the basins of the Pacific and Indian Oceans.

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UDC: 621.039.616

USSR

NASTOYASHCHIY, A. F., SHEVCHENKO, L. P.

"Thermonuclear Combustion Wave in a Contained Plasma"

Moscow, Atomnaya Energiya, Vol 32, No 6, Jun 72, pp 451-455

Abstract: A thermonuclear plasma with density close to that of a solid is considered. It is assumed that the plasma is contained by a material shell which prevents dispersion, and that energy is released within the plasma due to a synthesis reaction. At the same time, heat leakage by thermal conduction occurs as a result of contact between the plasma and the walls of the container. In addition, the heat loss causes plasma emission. It is further assumed that only a part of the plasma is heated to the thermonuclear temperature, so that there will be a boundary between the hot and cold matter at time zero. The authors analyze the conditions of existence of a thermonuclear combustion wave and propagation of this wave toward the colder region. Two methods of analysis are considered: finding approximate analytical solutions for the hot and cold regions and then joining the resultant approximations, and the phase plane method. It is shown that a combustion wave can exist in a thermonuclear plasma in such a system

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USSR

NASTOYASHCHIY, A. F., SHEVCHENKO, L. P., Atomnaya Energiya, Vol 32, No 6, Jun 72, pp 451-455

only in the region of plasma temperatures and densities for which the derivative with respect to the temperature of the effective heat source is negative. The effective heat source is made up of the heat release of the synthesis reaction, heat loss to the walls of the container, and plasma emission. The negative temperature derivative criterion also defines the condition of heat equilibrium stability for a plasma with walls, as shown in a previous paper by one of the authors (see A. F. Nastoyashchiy, "Atomnaya Energiya", Vol 32, 1972, p 43).

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USSR

UDC 537.528

NAUGOL'NYKH, K. A., and ROY, N. A.

Elektricheskiye razryady v vode (Electrical Discharges in Water), Moscow, "Nauka," 1971, 155 pp

Translation: Annotation: This monograph is concerned with investigating the hydrodynamic phenomena during electrical discharges in a liquid. The bases for the book are mainly the research of the authors and their associates in this field. The monograph gives the qualitative picture of the phenomena, during an electrical discharge in water, in their real sequence. The methods of initiating the electrical discharge in a liquid are described. The physical processes which take place in the discharge channel and the properties of the material in it are examined. Experimental data are cited on the electrical characteristics of the discharge and the rates of expansion of the channel. Theoretical models for the discharge as a hydrodynamic phenomenon are examined, and a comparison is made of the results of the computation with be experimental data.

The book is intended for scientific researchers: that is, physicists and specialists who employ electrical discharges in a liquid as the sources of pressure impulses. The book contains 90 illustrations, 15 tables, and 76 bibliographic entries.

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1/2 018 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--RADIATION OF SOUND BY A CAVITATING REGION -U-

AUTHOR-(03)-BOGUSLAVSKIY, YU.YA., IOFFE, A.I., NAUGOLNYKH, K.A.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, AKUSTICHESKIY ZHURNAL, VOL 16, NO 1, 1970, PP 20-24

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--MATHEMATIC MODEL, CAVITATION NOISE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/1876 STEP NO--UR/0046/70/016/001/0020/0024

CIRC ACCESSION NO--AP0106543

UNCLASSIFIED

2/2 018 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0106543

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BASED ON AN APPROACH SUGGESTED BY LIGHT HILL FOR ESTIMATING NOISES OF HYDRODYNAMIC ORIGIN, AN EQUATION DESCRIBING RADIATION OF SOUND BY CAVITATING STREAMS OF LIQUED HAS BEEN DERUVED. THE INTENSITY OF THE CAVITATION COMPONENT OF NOISE WAS CALCULATED FOR THE CASE WHEN THE NOISE CAN BE CONSIDERED AS THE AGGREGATE OF PULSES WITH RANDOM AMPLITUDES AND TIMES OF APPROACH TO THE OBSERVATION POINT, AND ALSO FOR THE CASE OF WEAK PULSATIONS OF CAVITATING BUBBLES. THE LIGHTHILL EQUATION: EQUATION SHOWN ON MICROFICHE, (P EQUALS DENSITY OF MEDIUM AND V EQUALS HYDRODYNAMIC VELOCITY), REDUCES THE PROBLEM OF RADIATION OF SOUND BY A STREAM TO THE ACOUSTIC PROBLEM OF A FIELD PRODUCED IN A HOMOGENEOUS MEDIUM BY SPATIALLY DISTRIBUTED SOURCES OF PRESSURE. THIS EQUATION IS ALSO USED FOR THE CAVITATING REGION, A LIQUID WITH GAS BUBBLES, WHERE P STANDS FOR THE EFFECTIVE DENSITY OF THIS MEDIUM. P EQUALS P SUBK-(1 PLUS Z) (2) WHERE P SUBK EQUALS DENSITY OF LIQUID, Z EQUALS (4-3) N(R PRIME3-R PRIME3 SUBO), N EQUALS NUMBER OF BUBBLES PER UNIT VOLUME, R EQUALS RADIUS OF BUBBLE, R SUBO EQUALS ITS INITIAL VALUE; THUS, Z EQUALS VOLUME OF ALL BUBBLES PER UNIT VOLUME OF LIQUED. FACILITY: ACOUSTICS INSTITUTE OF THE USSR ACADEMY OF SCIENCES.

UNCLASSIFIED

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USSR

UDC 534.222

BOGUSLAVSKIY, YU. YA., IOFFE, A. I., NAUGOL'NYKH, K. A., Acoustics Institute of the USSR Academy of Sciences

"Radiation of Sound by a Cavitating Region"

Moscow, Akusticheskiy Zhurnal, Vol 16, No 1, 1970, pp 20-24

Abstract: Based on an approach suggested by Lighthill for estimating noises of hydrodynamic origin, an equation describing radiation of sound by cavitating streams of liquid has been derived. The intensity of the cavitation component of noise was calculated for the case when the noise can be considered as the aggregate of pulses with random amplitudes and times of approach to the observation point, and also for the case of weak pulsations of cavitating bubbles.

The Lighthill equation:

$$\frac{\partial^2 \rho}{\partial t^2} - c^2 \Delta \rho = \frac{\partial^2 T_{ij}}{\partial x_i \partial x_j}$$

$$T_{ij} = \rho v_i v_j + P_{ij} - c^2 \delta_{ij} \rho' \qquad (1)$$

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BOGUSLAVSKIY, YU. YA., et al., Akusticheskiy Zhurnal, Vol 16, No 1, 1970, pp 20-24

($\rho$ = density of medium and v = hydrodynamic velocity), reduces the problem of radiation of sound by a stream to the acoustic problem of a field produced in a homogeneous medium by spatially distributed sources of pressure.

This equation is also used for the cavitating region -- a liquid with gas bubbles, where $\rho$ stands for the effective density of this medium.

$$\rho = \rho_K/(1+z) \qquad (2)$$

where $\rho_K$ = density of liquid, $z = (4/3)\, n(R^3 - R_o^3)$, n = number of bubbles per unit volume, R = radius of bubble, $R_o$ = its initial value; thus, z = volume of all bubbles per unit volume of liquid.

USSR

UDC: 543.222.2

YESIPOV, I. B., NAUGOL'NYKH, K. A., Acoustics Institute, Academy of Sciences of the USSR, Moscow

"Concerning the Expansion of a Spherical Cavity in a Liquid"

Moscow, Akusticheskiy Zhurnal, Vol 18, No 8, Apr-Jun 72, pp 233-238

Abstract: An approximate analytical solution is found for the Kirkwood--Bethe equations for the problem of expansion of a spherical cavity in a liquid. The characteristics of the resultant pressure wave are determined. The solutions found are compared with the results of numerical integration of the initial Kirkwood-Bethe equations on a digital computer.

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1/2 008 UNCLASSIFIED PROCESSING DATE--09OCT70

TITLE--PEPTIDES OF SARCOLYSINE WITH GAMMA AMINOBUYRIC ACID -U-

AUTHOR-(04)-NAULIUKONIS, A., KARPAVICHYUS, K., KILDISHEVA, O.V., KNUNYANTS, I.L.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (1), 161-2

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PEPTIDE, ANTINEOPLASTIC DRUG

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1986/1921 STEP NO--UR/0062/70/000/001/0161/0162

CIRC ACCESSION NO--AP0103648

UNCLASSIFIED

2/2 008 UNCLASSIFIED PROCESSING DATE--090CT70

CIRC ACCESSION NO--AP0103648

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ADDN. OF 85 ML AC SUB2 O AT 50-5DEGREES TO 10.3 G H SUB2 N (CH SUB2) SUB3 CO SUB2 H IN 98PERCENT HCO SUB2 H GAVE AFTER 2 HR AT ROOM TEMP 47PERCENT HCONH (CH SUB2) SUB3 CO SUB2 H (I), M. 105-6DEGREES. TO 3.33 G N,FORMYLSARCOLYSINE AND 1.6 G 8,HYDROXYQUINOLINE IN TETRAHYDROFURAN (THF) WAS ADDED 2.1 G DICYCLOHEXYLCARBODIIMIDE AND AFTER 6 HR A LITTLE ACOH WAS ADDED AND THE UREA PPT. REMOVED TO GIVE 65PERCENT N,FORMYLSARCOLYSINE 8,HYDROQUINOLYL ESTER (II), M. 132-4DEGREES. SIMILARLY, I AND P,NITROPHENOL GAVE 74PERCENT OF THE CORRESPONDING I P,NITROPHENYL ESTER(III), M. 59-60 DEGREES. KEEPING 4.6 G II WITH 2 G H SUB2 N (CH SUB2) SUB3 CO SUB2 CH SUB2 PH IN THF 1 DAY GAVE 58PERCENT BENZYL N,FORMYLSARCOLYSYL, GAMMA, AMINOBUTYRATE (IV), M. 113-14DEGREES. SIMILARLY, THE BENZYL ESTER OF SARCOLYSINE AND III GAVE 85PERCENT BENZYL ESTER OF N,FORMYL, GAMMA, AMINOBUTYRYLSARCOLYSINE (V), M. 99-100DEGREES. V HYDROGENTED OVER PD BLACK IN MEOH TO N,FORMYLSARCOLYSYL, GAMMA, AMINOBUTYRIC ACID, M 131-2 DEGREES. SIMILARLY, THE BENZYL ESTER YIELDED THE FREE N,FORMYL, GAMMA, AMINOBUTYRYLSARCOLYSINE, M. 134-5DEGREES. KEEPING IV IN PH CH SUB2 OH WITH ACCL I DAY AT ROOM TEMP. GAVE AFTER ISULATION OF THE HCL SALT OF BENZYL SARCOLYSYL, GAMMA, AMINOBUTYRATE AND TREATING IT WITH ET SUB3 N, FOLLOWED BY HYDROGENOLYSIS OF THE CRUDE PRODUCT, 91PERCENT SARCOLYSYL,GAMMA,AMINOBUTYRIC ACID, M. 123-4DEGREES. SIMILARLY WAS PREPD. THE BENZYL ESTER OF GAMMA,AMINOBUTYRYLSARCOLYSINE, M. 98-9DEGREES, AND GAMMA,AMINOBUTYRYLSARCOLYSINE M. 129-31DEGREES.

UNCLASSIFIED

USSR

UDC 621.382.002

KOROBOV, A.I., ABALMAZOVA, M.G., KARASEV, V.I., NAUMCHENKO, A.S., REPIN, V.A.

"Methods Of Control Of The Imperfections Of The Film Structures Metal--Dielectric--Metal"

Elektron. tekhnika. Nauch.-tekhn.sb.Upr.kachestvom i standartiz. (Electronics Technology. Scientific-Technical Collection. Control Of Quality And Standardization), 1971, No 4(10), pp 12-19 (from RZh:Elektronika i yeye primeneniye, No 1, Jan 72, Abstract No 1B515)

Translation: Methods are considered for control of imperfections of the thin-film structure metal--dielectric--metal: electrochemical coloration of the channels of high conductivity in the dielectric film, observation of local charges on the surface of the film with the aid of a mirror electron microscope, measurement of the dependence of the number of partial breakdowns on the magnitude of the applied voltage, and also the frequency dependence C and tg$\delta$ of capacitors in the low-frequency (40--5000 Hz) region, and measurement of the residual polarization. The characteristics are presented of the degree of imperfection of a number of structures which are used in thin-film microcircuits. The qualitative agreement is shown of the evaluation of the imperfection of these structures by various methods. Summary.

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USSR

UDC 621.382.002

VOZHENIN, I.N., KOROBOV, A.I., NAUMCHENKO, A.S., OBOROTOV, A.F., REPIN, V.A.

"Quality Of Films Of Barium-Borosilicate Glasses Produced In A Vacuum By Thermal Evaporation"

Elektron. tekhnika. Nauch.-tekhn.sb. Upr.kachestvom i standartiz (Electronics Technology. Scientific-Technical Collection. Quality Control and Standards), 1971, Issue 1(7), pp 84-90 (from RZh--Elektronika i yeye primeneniye, No 10, October 1971, Abstract No 10B432)

Translation: The properties of a film of optimum composition 20 $B_2O_3$:80 $C_2$ produced by vacuum-thermal evaporation by the flash method of powdered glass are equal to the basic properties of massive glass of the same composition. The films differ from massive glass by the increased defectiveness of the structure and the deficiency of oxygen. By annealing of the films in air and introduction of the corresponding impurities it is possible to improve the structure and to vary the electrical properties. The infrared absorption spectra of the films is presented, as well as the dependence of the breakdown voltage of the films on the thickness. With the introduction of BaO into the films, the dielectric constant of the films is linearly increased to six. During this, the tangent of the loss angle is smoothly increased and at 2-3 orders of magnitude, the breakdown voltage and the volume resistivity are decreased. Simultaneously, the magnitude of the internal mechanical stress is reduced. 6 ill. 2 tab. 8 ref. I.M.

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USSR UDC: 621.396.6.019.3-181.5

NAUMCHENKO, A. S., KOROBOV, A. I.

"On Physical Prediction of the Reliability of the Elements of Thin-Film Microcircuits"

Elektron. tekhnika. Nauchno-tekhn. sb. (Electronic Technology. Scientific and Technical Collection), 1970, ser. 6, vyp. 1, pp 100-107 (from RZh-Radiotekhnika, No 7, Jul 70, Abstract No 7V271)

Translation: The authors consider problems of physical modeling of the failures of elements of thin-film micromodules, compilation of programs for accelerated tests, and the results of these tests. Data are given on investigation of physical processes of aging of the elements (resistors and capacitors). Four illustrations, bibliography of 19 titles. Resumé.

1/1

USSR UDC 621.31.003.1

NAUMCHENKO, G. P.

"Development of Automation of Planning Material and Technical Supply in Power Engineering"

Nauchn. tr. Mosk. inzh.-ekon. in-t (Scientific Works of Moscow Engineering-Economics Institute), 1970, vyp. 29, pp 51-56 (from RZh-Elektrotekhnika i Energetika, No 4, Apr 71, Abstract No 4 Ye72)

Translation: The problems which must be solved by an automated control system for material and technical supply of a power system are formulated.

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USSR

UDC: 621.375.82

DZYUBENKO, M. I., KOROBOV, A. M., MASLOV, V. V., and NAUMENKO, I. G.

"Investigating the Characteristics of Lasers Using Organic Compounds With Dispersion Resonators"

Kiev, V sb. Kvant. elektronika (Quantum Electronics--collection of works) "Nauk. dumka," No 6, 1972, pp 109-119 (from RZh--Fizika, No 4, 1973, Abstract No 4D1231)

Translation: The oscillation characteristics of 1-phenyl-4-(p-chlordiphenyl) butadiene-1.3 in a prism dispersion resonator and bis-/1-p-tolyl-6-methyl-quinoline-4/trimethodionecyaninperchlorate in a resonator with a diffraction grating are investigated. The solutions of these substances were excited by the second harmonic and fundamental frequency of a ruby laser in the first and second cases respectively. Smooth tuning of the average oscillation wavelength of the first compound was realized in the 4045-4215 Å range, for the second compound it was realized in the 7320-7620 Å range. Here, the radiation spectrum for each narrowed to 10-20 Å and 1-3 Å respectively. It was discovered that the superluminescence phenomenon arising in lasers using organic solutions with dispersion

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USSR

DZYUBENKO, M. I., et al., V sb. Kvant. elektronika, No 6, 1972, pp 109-119

resonators limits the tuning frequency range and substantially affects the spectral, energy, and spatial angular characteristics of the stimulated emission. Bibliography of 15. Authors' abstract

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USSR

UDC 681.325

EPSHTEYN, A. D., and NAUMCHENKO, T. K., State All-Union Central Scientific Research Institute of All-Around Automation

"Ring Square Pulse Oscillator Made of Two Triggers"

USSR Author's Certificate No 304679, filed 14 January 1970, published 24 May 1971 (from Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 17, 1971, No H 03k 3/64)

Translation: A ring square pulse oscillator made of two triggers and MDS transistors is introduced. It is distinguished by the fact that in order to insure the possibility of tuning the oscillator in a broad frequency range and to insure a minimum number of external parts when using microcircuits, the outputs of one of the triggers are connected via a capacitor to the diode anodes and the diode cathodes are connected to the common bus of the power supply.

USSR UDC: 681.327.02

ALYAKRINSKIY, B. B., NAUMCHENKO, V. V., Institute of Automation and Remote Control (Technical Cybernetics)

"An Information Accumulator"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 4, Feb 71, Author's Certificate No 292194, Division G, filed 1 Jul 69, published 6 Jan 71, p 139

Translation: This Author's Certificate introduces an information accumulator which contains series-connected registers and coupling circuits between them. Each of the registers is based on flip-flops and contains a circuit for resetting the register to zero. As a distinguishing feature of the patent, the device is simplified by incorporating into each register of the accumulator a circuit for shaping a signal on the state of the register based on NOT and OR elements and on a delay element. The inputs of the OR elements are connected to the working arms of all flip-flops in the register, and the output is connected through a delay element to the circuit for resetting the given register to zero and to the input of the NOT element. The output of the NOT element is connected to the circuit for resetting the preceding register to zero, and to the corresponding circuit for the following register.

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1/2 027 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--SURFACE HARDENING DURING CYCLIC STRESS OF STEELS 22K AND 16GNM AT HIGH TEMPERATURES -U-

AUTHOR--NAUMCHENKOV, N.YE

COUNTRY OF INFO--USSR

SOURCE--METALLOVED. TERM. OBRAB. METAL. 1970, (1) 52-5

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--CYCLIC STRESS, STEEL HARDENING, SURFACE HARDENING, FATIGUE STRENGTH, METAL AGING/(U)22K STEEL, (U)16GNM STEEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1983/1999 STEP NO--UR/0129/70/000/001/0052/0055

CIRC ACCESSION NO--AP0054797

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--18SEP70

2/2 027

CIRC ACCESSION NO--AP0054797

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT OF SURFACE HARDENING ON FATIGUE RESISTANCE OF STEELS 22K (C 0.20, SI 0.3, MN 0.95, S 0.037, P 0.016, CR 0.34, CU 0.11PERCENT) AND 16GNM (C 0.18, SI 0.21, MN 0.68, S 0.022, P 0.012, CR 0.30, NI 1.21, MO 0.39PERCENT) IS STUDIED AS A FUNCTION OF TESTING TEMP., SUSCEPTIBILITY TO NOTCHING, AND AGING OF THE HARDENED SAMPLES AT 350DEGREES. SURFACE HARDENING INCREASES THE FATIGUE RESISTANCE OF THESE STEELS AT NORMAL AND INCREASED TEMPS. IN STEEL 16GNM SURFACE HARDENING IS MORE EFFECTIVE OWING TO STRESS CONCNS. THE RESISTANCE LIMITS OF THE HARDENED STEELS AT 400DEGREES ARE INCREASED BY 62 TO 109PERCENT IN COMPARISON WITH THAT OF NON HARDENED. AGING OF THE SURFACE HARDENED SPECIMENS AT 350DEGREES FOR 1000 HR DOES NOT DECREASE THE RESISTANCE DURING CYCLIC BENDING OF STEEL 16GNM, BUT ELIMINATES COMPLETELY HARDENING EFFECT IN 22K STEEL.

UNCLASSIFIED

UDC 621.395.74.01

USSR

NAUMCHUK, O.F.

"Characteristics Of An Analysis Of The Transmission Capacity Of Communication Networks Being Switched"

V sb. Diskretn. avtomaty i seti svyazi (Discrete Automatic Machines And Communication Networks--Collection Of Works), Moscow, "Nauka," 1970, pp 19-23 (from RZh--Elektrosvyaz', No 2, February 1971, Abstract No 2.64.32)

Translation: Some means are considered for solution of a problem with respect to an evaluation of the transmission capacity of a communication network being switched with bypass routing. Existing methods make it possible to determine the transmission capacity of a communication network and the number of channels. For networks being switched, such an evaluation will be inexact because it does not take into account the nonlinear dependence between the magnitude of the flow and the number of channels which are used for servicing this flow. Moreover, solution of this problem is complicated by the fact that the characteristics of the flow entering a branch depend on the structural parameters of the network and the algorithm of the distribution of the flow. It is proposed to

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USSR

NAUMCHUK, O. E., Diskretn. avtomaty i seti svyazi, 1970, pp 19-23 (from RZh--Elektrosvyaz', No 2, Feb 1971, Abstract No 2.64.32)

show the dependence of the capacity of a branch on the structural parameters of the net and the algorithm of distribution, which makes it possible to use existing methods for determination of the transmission capacity of communication networks, not performing a preliminary distribution of the flow. 4 ill. 4 ref. O. N.

2/2

1/2 051 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--GREEN LIGHT LASER USING ORGANIC DYES EXICTED BY PULSE TUBES -U-

AUTHOR-(03)-DZYUBENKO, M.I., KOROBOV, A.M., NAUMENKO, I.G.

COUNTRY OF INFO--USSR

SOURCE--UKRAINS'KII FIZICHNII ZHURNAL, VOL. 15, FEB. 1970, P. 342-344

DATE PUBLISHED----FEB70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--LASER, LASER PUMPING, LASER POWER OUTPUT, XENON, PULSE SHAPER, SODIUM COMPOUND, DYE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1992/1448 STEP NO--UR/0185/70/015/000/0342/0344

CIRC ACCESSION NO--AP0112442

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--04DEC70

2/2 051

CIRC ACCESSION NO--AP0112442

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DESCRIPTION OF EXPERIMENTS WITH A GREEN LIGHT LASER USING AQUEOUS OR ALCOHOL SOLUTIONS OF SODIUM FLUORESCEIN, 9 AMINOACRIDINE, 4 METHYLUBELLIFERONE AND OTHER COUMARIN DERIVATIVES AS ACTIVE MEDIA AND TWO XENON PULSE TUBES, A CAPACITOR AND A VACUUM DISCHARGER FOR PUMPING. THE SPECTRAL CHARACTERISTICS OF LASER POWER OBTAINED WITH FLUORESCEIN ARE DESCRIBED. FACILITY: AKADEMIIA NAUK UKRAINS'KOI RSR, INSTITUT RADIOFIZIKI I ELEKTRONIKI, KHARKOV, UKRAINIAN SSR.

UNCLASSIFIED

UDC 535.89

USSR

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DZYUBENKO, M. I., KOROBOV, A. M. and NAUMENKO, I. G., Institute of Radiophysics and Electronics of the Academy of Sciences UkrSSR, Khar'kov

"Flashbulb-Excited Organic Dye Laser of Green Light"

Kiev, Ukrainskiy Fizicheskiy Zhurnal, Vol. 15, No. 2, Feb 70, pp 342-344

Abstract: The use of solutions of organic dyes to produce intense, highly directional coherent radiation was found to involve one basic difficulty associated with the short lifetime of organic molecules in the excited state. To produce generation in the green region of the spectrum, a discharge of a low inductance capacitor through a vacuum discharge into two direct xenon tubes of the type IFP-2000 was applied. The experiments established that by increasing the voltage from 6 to 24 kv the discharge period decreased from 3.8 to 2.1 μsec and the length of a light pulse increased from 1.15 to 1.4 μsec, while the rise front decreased from 0.7 to 0.4 μsec. Aqueous and alcohol solutions of sodium fluorescein, 9-aminoacridine, 4-methylumbelliferone, and certain other coumarin derivatives were used. Generation was obtained in alcohol and aqueous solutions of fluorescein with concentrations of $1.25 \cdot 10^{-5}$-$6.10 \cdot 10^{-4}$ mole/liter and the wavelengths varied in the range 5420-5810 Å depending on the concentration. No radiation was obtained in the blue region of the spectrum.

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USSR UDC: 621.396.6.049.75

NAUMENKO, N. I.

"A Device for Piecewise Feeding of Circuit Boards"

USSR Author's Certificate No 270026, filed 27 Jan 69, published 4 Aug 70 (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1V249 P)

Translation: A device is proposed for piecewise feeding of printed circuit boards. The device contains a magazine in which the boards are stacked and a conveyer mechanism with a cutoff device raised above a chute by less than the thickness of the boards. To provide continuous feed of the boards from the magazine, cutoff devices are made in the form of spring-loaded levers hinged in holders mounted on axles placed on the links of endless chains in the conveyer.

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1/2 007 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--ARENESULFONYLAMIDES. XL. 1,1,DIMETHYL,3,5,6,TRISARYLSULFONYLFORMAMIDINESULFINAMIDINES -U-

AUTHOR-(02)-KREMLEV, M.M., NAUMENKO, R.P.

COUNTRY OF INFO--USSR

SOURCE--ZH. ORG. KHIM. 1970, 6(5), 1042-5

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHEMICAL SYNTHESIS, SULFONAMIDE, BENZENE DERIVATIVE, BROMINATED ORGANIC COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3006/1267 STEP NO--UR/0366/70/006/005/1042/1045

CIRC ACCESSION NO--AP0134941

UNCLASSIFIED

2/2 007 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0134941

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE REACTION OF ME SUB2 NC(:NSO SUB2 R)SNA WITH R PRIME1 SO SUB2, NCL SUB2 GAVE (ME SUB2 NC(:NSO SUB2 R)S) SUB2 AND ME SUB2 NC(:NSO SUB2 R)S(NNA, SO SUB2 R PRIME1):NSO SUB2 R PRIME1 (I) (R AND R PRIME1 GIVEN): P,MEC SUB6 H SUB4, PH; P,BRC SUB6 H SUB4, PH; M,O SUB2 NC SUB6 H SUB4, PH; P,MEC SUB6 H SUB4, PH; P,BRC SUB6 H SUB4, P,MEC SUB6 H SUB4; PH, P,MEC SUB6 H SUB4; AND PH, PH. THE ACTION OF STRONG ACIDS ON I GAVE ME SUB2 NC(:NSO SUB2 R)S(NHSO SUB2 R PRIME1):NSO SUB2 R PRIME1. I ARE N SUBSTITUTED DERIVS. OF H SUB2 NC(:NH)S(NH SUB2):NH (II), WHICH IS UNSTABLE AND WAS NEVER ISOLATED. THE NAME FORMAMIDINE, SULFINAMIDINE IS PROPOSED FOR II.

FACILITY: DNEPROPTETROVSK. KHIM.-TEKHNOL. INST., DNEPROPETROVSK. USSR.

UNCLASSIFIED

Acc. Nr: AA0033603 Abstracting Service: CHEMICAL ABST. 4-70 Ref. Code: UK0000

74070f Separator/electrolyte carrier for primary wet cells. Naumenko, V. A.; Torontseva, T. N.; Pen'kova, L. F.; Vyselkov, A. A.; Rogova, G. I. Brit. 1,175,955 (Cl. H 01m), 01 Jan 1970, Appl. 23 Jan 1968; 2 pp. The properties of more rapid $H_2O$ absorption, increased $H_2O$ retention, shorter activation time and increased elec. cond. can be conferred on alignine separators, for use in $H_2O$-activated primary cells. This is accomplished by impregnating or spraying with an aq. soln. contg. KCl 10, starch 2, and glycerol or urea 5 wt. %, followed by drying at ≤35° to ≤6% $H_2O$ content. These materials should be present as KCl 2–8, starch 0.2–0.8, and glycerol or urea 0.2–3.5 wt. % based on the wt. of dry alignine.

Norman W. Fletcher

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REEL/FRAME
19710168